

**Response Under 37 CFR 1.116**  
**Expedited Procedure**  
**Examining Group 2600**  
Application No. 09/937,460  
Paper Dated September 26, 2006  
In Reply to USPTO Correspondence of May 26, 2006  
Attorney Docket No. 3135-011614

### **REMARKS**

The final Office Action of May 26, 2006 has been reviewed and the Examiner's comments carefully considered. The present Amendment amends claims 22 and 36 in accordance with the specification and drawings as originally filed. No new matter has been added. Therefore, claims 22-34, 36, 37, 39, 40 and 42 remain in this application, and claims 22 and 36 are in independent form.

#### **35 U.S.C. §103 Rejections**

Claims 22, 27, 32 and 36 stand rejected under 35 U.S.C. §103(a) for obviousness based upon U.S. Patent No. 4,175,860 to Bacus (hereinafter "the '860 Bacus patent") and in view of U.S. Patent No. 4,741,043 to Bacus (hereinafter "the '043 Bacus patent"). In view of the above amendments and the following remarks, the Applicant respectfully requests reconsideration of these rejections.

As now defined by amended independent claim 22, the present invention is directed to a device for selecting and recording an image of an irradiated or emissive structure of DNA, RNA or protein with an improvement comprising an object holder for positioning the structure in a stationary position, a mirror for reflecting an image of the structure, at least one stationary mirror disposed between the structure and the camera, and a displaceable camera for selecting a part of the image from the reflected image of the structure by displacing the camera while holding the object in the stationary position. Support for the amendments to the claims may be found at page 2, lines 4-6 and 15-20.

As now defined by amended independent claim 36, the present invention is further directed to a method for selecting an image to be recorded with a camera which forms a part of an irradiated or emissive structure of DNA, RNA or protein. The method comprises the steps of A) placing the DNA, RNA or protein structure in stationary position; B) reflecting an image of the structure with a mirror, and C) selecting with a displaceable camera a part of the image of the structure to be viewed from the reflected image by displacing the camera while holding the object in the stationary position. In order to reflect an image as according to step B), the mirror is rotated around a single rotation axis such that a selected part of the image is reflected by the mirror to a viewing area and the part of the image to be

reflected to the viewing area is also reflected by at least one additional stationary mirror as well as by the mirror.

The '860 Bacus patent discloses an apparatus for performing automated classification of cells. Referring to Fig. 1 of this patent, the apparatus includes a lens (12), a beam splitter (20), and a camera (24). The '043 Bacus patent is directed to a system for analyzing and quantifying the DNA in specimen cells by image analysis using pattern recognition, and is provided by the Examiner as a teaching of recording an image of an irradiated or emissive structure of DNA and placing the DNA structure in a stationary position for cellular image analysis.

Initially, the Applicant would like to note that the '860 Bacus patent and the '043 Bacus patent fail to teach or suggest an additional, stationary mirror positioned between the structure and the camera as required by independent claims 22 and 36. The '860 Bacus patent discloses an apparatus that includes a stage (10), a mirror (28) and a camera (32). The Examiner contends that beam splitter (20) is equivalent to an additional mirror. However, a beam splitter and a mirror are not equivalent optical devices. A beam splitter is an optical device that splits a beam of light into two or more beams and is usually constructed from glass prisms. While some beam splitters can be formed from mirrors, the function of a beam splitter is to split a beam of light into two or more beams, whereas the sole function of a mirror is to reflect light.

Furthermore, the '860 Bacus patent and the '043 Bacus patent, either alone or in combination, do not teach or suggest an object holder for positioning the object *in a stationary position* or *displacing* a camera while holding the object *stationary* as required by independent claims 22 and 36. Instead, the '860 Bacus patent and the '043 Bacus patent disclose that, in microscopy, the camera is always stationary. These references disclose that it is the standard, in microscopy, to move the object and keep the imaging equipment stationary. This is opposite to the claimed invention, wherein the object remains stationary and the camera moves. The advantage of moving the camera rather than the object is that there is less chance of damaging the object and spilling hazardous chemicals when the object can remain stationary. Also, there is no reason or suggestion that could motivate the skilled

person based on the '860 Bacus patent and the '043 Bacus patent to defer from the standard microscopy setup by moving the camera instead of the object.

The moving of the object is mentioned explicitly in the following parts of the '043 Bacus patent:

A) The '043 Bacus patent shows the stationary camera (18) in the figures, as well as knobs to move object (70) in the X and Y directions;

B) Column 7, lines 16-18 where it is described that "the operator moves the microscope stage by turning the conventional X and Y knobs (70) to shift the control cell objects (40) into view of the monitoring screen"; and

C) Column 7, lines 49-51 where it is described that "the operator will move the X and Y knobs (70) for the microscope stage (51) to move into view on the monitoring screen (37) a first field of specimen cell objects to be analyzed".

The moving of the object is also mentioned explicitly in the following parts of the '860 Bacus patent:

A) The '860 Bacus patent mentions a similar setup, but now with automated X positioning controller (14) and Y positioning controller (16);

B) Column 4, lines 42-44 where it is described that "the apparatus includes a stage upon which the slide is placed and the slide is positioned to a location..."; and

C) Column 5, line 65 – column 6, line 5 where it is described that "the stage (10) is adapted to be movable so that all portions of the slide can be brought under the microscope objective (12) optics for microscopic imaging. The stage (10) is controlled by X and Y positioning controllers (14) and (16), respectively..., so that the entire slide can be systematically positioned beneath the microscope objective optics".

For the foregoing reasons, the Applicant believes that the subject matter of amended independent claims 22 and 36 is not rendered obvious by the '860 Bacus patent or in view of the '043 Bacus patent. Reconsideration of the rejection of claims 22 and 36 is respectfully requested.

Claims 27 and 32 depend from and add further limitations to amended independent claim 22 and are believed to be patentable for the reasons discussed hereinabove

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in connection with amended independent claim 22. Reconsideration of the rejection of claims 27 and 32 is respectfully requested.

Claims 23, 30 and 37 stand rejected under 35 U.S.C. §103(a) for obviousness based upon the '860 Bacus patent and in view of the '043 Bacus patent as applied to claims 22 and 36, and further in view of U.S. Patent No. 6,297,825 to Madden et al. (hereinafter "the '825 Madden patent"). In view of the above amendments and the following remarks, the Applicant respectfully requests reconsideration of these rejections.

Claims 23, 30 and 37 depend from and add further limitations to amended independent claims 22 and 36. The '860 Bacus patent and the '043 Bacus patent were discussed hereinabove in connection with amended independent claims 22 and 36.

The Examiner refers to the '825 Madden patent as proof of the existence of moving cameras. However, the '825 Madden patent relates to a completely different field of technology (column 1, lines 9-11: image sequence generation: films, videos, broadcast, television, television commercials, interactive games...). Furthermore, the '825 Madden patent refers to screen analysis of image sequences (movies) in DVD's, video, etc. This field (i.e., movie making) is very remote from the microscopy disclosed in the '860 Bacus patent and the '043 Bacus patent because, in microscopy, stationary images are analyzed and not movies. In the Bacus patents, the object is positioned and subsequently a still image is taken.

In light of the foregoing disclosure of the '825 Madden patent, the Applicant views the '825 Madden patent as non-analogous art. To rely on a reference under 35 U.S.C. §103, the reference must be analogous prior art (See MPEP 2141.01(a)). "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

Furthermore, there is no reason or suggestion in either the '825 Madden patent or the Bacus patents, that would motivate a person skilled in the art to combine a moving camera as mentioned in the '825 Madden patent used in movies with a microscopy setup disclosed by the Bacus patents. Accordingly, it must be concluded that this combination is only made in hindsight.

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Therefore, since the '825 Madden patent does not cure the deficiencies of the combination of the '860 Bacus patent and the '043 Bacus patent, claims 23, 30 and 37 are believed to be patentable for the reasons discussed hereinabove in connection with amended independent claims 22 and 36. Reconsideration of the rejection of claims 23, 30 and 37 is respectfully requested.

Claims 24-26, 28, 29, 31, 33-34, 39, 40 and 42 stand rejected under 35 U.S.C. §103(a) for obviousness based upon the '860 Bacus patent and in view of the '043 Bacus patent as applied to claims 22 and 36, and further in view of U.S. Patent No. 5,134,662 to Bacus et al. (hereinafter "the '662 Bacus patent"). In view of the above amendments and the following remarks, the Applicant respectfully requests reconsideration of these rejections.

Claims 24-26, 28, 29, 31, 33-34, 39, 40 and 42 depend from and add further limitations to amended independent claims 22 and 36. The combination of the '860 Bacus patent and the '043 Bacus patent is discussed hereinabove in connection with amended independent claims 22 and 36. The '662 Bacus patent does not cure the deficiencies of the combination of the '860 Bacus patent and the '043 Bacus patent. Therefore, claims 24-26, 28, 29, 31, 33-34, 39, 40 and 42 are believed to be patentable for the reasons discussed hereinabove in connection with amended independent claims 22 and 36. Reconsideration of the rejection of claims 24-26, 28, 29, 31, 33-34, 39, 40 and 42 is respectfully requested.

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Based on the foregoing amendments and remarks, reconsideration of the rejections and allowance of pending claims 22-34, 36, 37, 39, 40 and 42 are respectfully requested.

Respectfully submitted,

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